THOMAS A. DASCHLE SPEECH

THOMAS A. DASCHLE: Thank you, Tom for that very, very generous introduction. It is so nice to be with all of you and to be here this morning, and I do mean morning. Only at an agriculture conference can you hear four speakers by 9:00 AM.

[Laughter]

But Tom Vilsack just gave us an eloquent and powerful analysis of the risks we face in agriculture, man-made and natural. And it was a reminder yet again of the extraordinary leadership that we have in our Secretary of Agriculture today. I consider him a very dear friend, an unparalleled public servant, someone I admire immensely for so many reasons but in particular because of his mentorship of that young daughter of mine, Lindsay. So I thank him for all that he does, not only for my family but for all of us, each and every day.

I also want to thank Kathleen Merrigan and Joseph Glauber for their thoughtful presentations today. I don't know about you, but I have learned a great deal just in the first hour of this conference, and we have a lot more to go. But you talk about dedicated public servants, leaders that serve with selfless determination, and you've got three of them right here at this table. And I am honored and flattered to be part of the program this morning.

[Applause]

Being here, I'm reminded of an open door meeting that I had in a rural part of South Dakota several years ago. As a lot of you know in our small towns we don't have a lot of choice when it comes to where we meet. And it's oftentimes in the local café/bar, and I used to hold these public meetings, as I know that Tom has done through Iowa for many, many years. But in this particular open door meeting, I was about to start, and a farmer interrupted me just as I was about to begin. He said, "Daschle, I have a question." And he had obviously been at the bar most of the day; I could tell that --

[Laughter]

-- just by the way he started his question. He says, "Tell me, Daschle, what is the real difference between a Democrat and a Republican?" I was a little impatient by the question, and I just said, "Sir, when you're sober, I'll give you an answer to that question." He said, "Daschle, when I'm sober I don't give a damn."

[Laughter]

Well, the truth is, agricultural issues shouldn't divide us – they should unite us. And as I look over this tremendous crowd, I see unity among all of you.

In South Dakota we have a special term to describe agricultural issues. We just call them "issues." I was very fortunate to spend 30 years on these issues in Congress, attempting to put rural America's agenda on the national agenda. And almost every day since I left the Senate, I am reminded that agricultural issues and food security issues don't stop – as Tom said just now so powerfully – at the Prairie's edge. These are national issues. They are global issues.

Today farming and food security are beginning to receive the attention they deserve. President Obama has launched a new alliance for food security and nutrition with the goal of raising 50 million Sub-Saharan Africans out of poverty over the next decade alone. City kids are going back to work their grandparents' ranches. Farmers are having their own on-line dating service. And the most talked about Super Bowl commercial – courtesy of the late Paul Harvey – was Dodge Rams' heartwarming tribute to the American farmer.

What's that Kenny Chesney song, "She Thinks My Tractor's Sexy?" You know, there's some truth to that. Agricultural issues are, I would argue, sexy—if not sexy, increasingly critical and increasingly important.

So I'm glad to be here, and it's metaphorically appropriate that we're here today because it turns out it was February 21 of 1865, 148 years ago today, that the U.S. Patent Office issued Patent Number 46,454. I won't give you a pop quiz. It was simply labeled "John Deere Plow." But the implement sketched out on the page could just as easily have been labeled, as some historians have named it, one of the most important inventions in American history. They called it "the plow that broke the plains," and it did. By replacing cast iron with smooth steel, John Deere's innovation opened up huge new swaths of land for cultivation; it made it possible for towns like Aberdeen, South Dakota, my home town, to exist.

Before it, tilling an acre took a grown man a full 24 hours. After, it took as little as 5. And every pile of soil overturned upended another assumption about what the land could produce. That, to my mind, has been the story, not just of agricultural success, but of national success and, indeed, of global progress. This kind of game-changing innovation has enabled us to leap ahead, to break the plains, increase harvests, and feed the whole world.

Sometimes these innovations come from the most advanced science. Other times, they are simple steps and ideas that come from looking at and listening closely to the problem. But all of them can break down barriers to food security and allow us to plow entirely new paths of progress. And today, more than ever, we need those new pathways forward.

Just take a look at a few recent headlines:

"Drought on Mississippi River impacts everything from Japanese livestock to American beer."

"Food shortages could force world into vegetarianism, warns scientists."

"Patent endings raise new biotech issues."

"Global crop production shows some signs of stagnating."

"Could climate change be Al Qaida's best friend in Africa?"

I could list dozens more.

It all adds up to a perfect storm of challenges for global food production, and as a result, challenges for our global economy and for global security.

When I think about the factors that make up the perfect storm, I'm reminded of what Mark Twain reportedly observed: "Buy land—they're not making it anymore." In fact, I wish Twain was right. The truth is, global warming is making less. So we need to do more with the land that we still have.

Every year 7 billion of us on this earth already use the equivalent of a planet and a half of resources. Yet nearly 870 million people worldwide still today go to bed hungry. And by the year 2050 there will be over 2 billion more mouths to feed, many of them in the developing world. That's not sustainable.

To keep up with this rapidly rising demand, we will need to increase global food production 70 percent by mid-century. As Assistant Secretary of State Jose Fernandez has said, "That means producing as much food in the next 50 years as we've produced in the last 10,000."

Think about that for a minute. Between now and the time my grandkids are old enough to attend USDA conferences on their own, we will have had to grow as much food as we've grown from the dawn of recorded history to today. And we'll have to do it without more land.

Compounding this problem are the effects of a changing climate, which anyone who works close to the land can plainly see. Last September the cover of *National Geographic* asked the question: "What's up with the weather?" And it's a very fair question. Last year was the hottest on record in the U.S., with massive summer droughts leading Secretary Vilsack to declare more than half of U.S. counties primary natural disaster areas.

We've witnessed extreme flooding throughout Asia and devastating droughts in the Horn of Africa. In Europe, uncharacteristic deep freezes have given way to destructive wildfires. The UN Food and Agriculture Organization is actually warning of a huge locust infection in Egypt. Talk about disasters of Biblical proportion.

You can't make this stuff up.

As the Secretary has shared with us on many occasions, these natural disasters are leading to higher and higher crop insurance pay-outs at a time when the federal government is facing a brutal fiscal crunch. And while some folks may believe that warmer temperatures and more CO_2 may actually benefit agriculture, it doesn't look that way in the long run. Crop yields are down 2 to 3 percent globally, and for every 1 degree Celsius increase in average temperature, yields decrease by an average of 5 percent.

Climate change is projected to degrade up to a fifth of the arable land in the developing world. Meanwhile, – and I believe this is a regrettable oversight – we're not investing enough to improve agricultural productivity right when a growing population and a warming climate require us to do more with less.

Here at home, as the Secretary just said so powerfully, short-sighted fiscal policies are leading us to slash funding for agriculture research and land grant universities. And we're spending even less on agricultural R&D in low-income countries. As of 2008, at $3.5 billion, our agricultural investments in the developing world were less than half of what we spent 30 years ago. Less than half.

And while there's evidence of increasing investment in the agricultural sector, particularly from the private sector, there remains a $79 billion difference annually between what we invest in low- and middle-income countries and what they need to feed their people. This level of investment won't cut it in places like Africa, where agricultural R&D has declined below recommended levels, even while the population is expected to triple by the end of the century. As I've said, it's a perfect storm of pitfalls and of challenges.

But, if you all look closely at your programs, you'll see my name listed as Thomas Daschle, not Thomas Malthus. And I'm not here to preach doom and gloom. I'm something of an optimist. I think anyone who serves three decades in public life and lives to tell about it, has to be.

[Laughter]

So to my mind, weathering the perfect storm is possible if we only have the wisdom and the willpower to rethink our approach.

What do I mean by that?

I know a lot of you are very familiar with the "4 H's," of 4-H. Well, these are what I and a number of other folks consider the "4 Ds" of global engagement: defense, diplomacy, democracy, and development. And food security is essential to each and every one.

Consider the first of these factors, which is the state of our national defense.

Our national security is to a very large extent contingent on our food security. Hunger and poverty trigger political and economic instability, ultimately threatening our global security. If not before, this was made clear in 2007 and 2008, as a changing climate contributed to rising food prices which led to riots around the world. Food and water scarcity are quickly becoming a leading cause of global instability. Agriculture uses 70 percent of the globe's water. And while I think we can all agree that feeding people is a great way to use those resources, coming together to resolve our water and our food scarcity will be central to a strong national defense.

And it's not just food and water security. Agriculture's overall role in our national defense is multi-faceted, playing a critical role in our energy security as well. Just last week, for instance, Secretary Vilsack publicly highlighted the importance of biofuels in strengthening our energy independence and the investments USDA has made in advanced biofuels. As you all, former Secretary of Defense Leon Panetta was a vocal advocate for diversifying our military's energy resources – from biofuel drones to a "Green Fleet," – and I expect similar policies to continue when my former colleague Chuck Hagel is confirmed.

For all these reasons, I have long been a supporter of renewable fuels. And I encourage the further development of an industry that is important to both our national security as well as to the farming economy.

Whether we are talking food or water or energy security, let me put this another way—in the future, more crops in the field can mean fewer soldiers in the field.

At the same time, as important as our defense capabilities are, we also need to rebalance toward the other three "Ds." The U.S. today spends more on defense than on diplomacy, democracy, and development put together. Meanwhile, in the past year, China more than doubled its investment in developing new agricultural technologies. Those are the kinds of far-sighted policies that are enabling China to emerge as a world power and which we, frankly, need to get back to.

And as we shift our focus and our resources towards smarter, more constructive forms of international interaction, it's critical that food security remain at the center of shaping the secure world.

When it comes to diplomacy, that means forging stronger public-private and government-to-government relationships, like USAID's promising "Feed the Future" initiative. Initiatives like Feed the Future are country-led and focus on local solutions to enable countries to take ownership of their own development.

It also means ensuring that half a billion smallholder farmers can participate meaningfully and democratically in governing their own countries. Smallholders feed an estimated 80 percent of the population of Asia and Sub-Saharan Africa; yet these farmers often have little voice in its future.

More specifically, it means empowering women who represent 43 percent of small holders and are the majority of farmers in over 30 countries. Land rights and ownership, for example, can help women realize their potential, which in turn benefits their families, communities, and these countries themselves.

Lastly, building a secure interconnected globe will take a deep commitment to that final "D" – development – that has only recently begun to receive the attention that it deserves.

This means traditional country and governmental commitments, but it also means private sector development that stimulates entrepreneurship and empowers individuals.

There is a direct connection between a country's economic circumstances and its success in advancing the goals of the first three "Ds." Indeed, agriculture development is perhaps the most critical first step towards a nation's economic development. Moving from subsistence to surplus enables farmers to feed their families and communities, connect to emerging markets, improve their livelihoods, and ultimately strengthen their local economies. Growing economies lead to private sector investment, which only furthers economic growth and development to which we all aspire. And those rising economies abroad translate into expanding markets for American exports and increased production on American farms.

Because this issue is so fundamental to the wellbeing of the world, I'd like to spend my remaining time talking about what it will take to achieve these development advances and share their benefits. So here is how I view the challenges and opportunities of global development today.

Recently, I came across a chart that I think brilliantly illustrates the global imperative to promote agricultural development and the difficulties we face. It consists of two side-by-side pie charts, which is appropriate because the graphic is about food. One pie chart shows the distribution of arable land around the world, and the other shows the distribution of the world's population.

Many of the corresponding pie wedges are wildly disproportionate. East Asia and the Pacific, for instance, contain 14 percent of the world's arable land but must support 31 percent of the globe's population. For OECD countries, that ratio is reversed.

The ratios are similarly unequal when it comes to the distribution of calories – with wealthy nations experiencing overnutrition and poor ones undernutrition. Connecting people to food will only become more difficult as roughly 70 percent of the global population migrates to cities by 2050 – further away from where food is grown, requiring new ways to prevent waste and enhance nutrition.

Here is another illustration, one that should stick out from all the statistics that I've thrown out so far. In fact, if there's one thing I hope you'll remember from my remarks this morning it would be this. It's breathtaking just to say this: a full 30 to 50 percent of

the food produced in the world rots or goes uneaten. That to me is one of the most amazing statistics I'll ever articulate.

Up to half of our total global output.

Except while waste might be the problem here in the developed world, the problem in developing countries is getting the goods to market. Roughly 85 percent of the food produced never crosses international borders, and given the unequal distribution of people and arable land I just mentioned, that is a major obstacle today to feeding the world.

So what it comes down to is that we need to produce more, higher quality and more nutritious food. And we need to become better at moving what we produce, and we need to do so sustainably. The solution to those problems, broadly speaking, is a word that I think all four of us have mentioned in various ways as we've spoken this morning. And that single word is "innovation."

Indeed, through science-based technologies, we can innovate to handle severe weather conditions, diminishing resources, postharvest losses, and nutritionally insufficient crops. The benefits of science and innovation in food and agriculture in its many forms are seen each and every single day. We can connect rural farmers to extension workers and best practices with the use of mobile technology, improving their crop yields. We can enhance the nutritional content of crops and food through fortification and ingredient solutions that reduce fat, salt, and sugar content. Modern irrigation and other water management practices enable farmers to more efficiently irrigate crops and reduce water wastage.

Thanks to the great work of firms like Raven Industries in my native state of South Dakota, farmers are even using precision farming solutions such as GPS technology to increase yields while using actually fewer inputs.

But innovation is not just about science. Sometimes innovation is about creative collaborations and partnerships that provide new perspectives to address complex challenges. The Global Food Security Index, created by the Economist Intelligence Unit with the support of DuPont, is an invaluable tool that measures the core indicators that drive food security – affordability, availability, quality and safety – across 105 countries. The Index can tell us why some countries are more prone to food and nutrition insecurity than others, enabling targeted investment and country-specific solutions.

Innovation also comes in very simple forms that result from new perspectives.

Melinda Gates recently joked during an NPR interview about an idea one of her staff had to use sweaty socks as an anti-malaria mosquito repellent. Everyone dismissed the idea, but it turned out to be a very good one, and a similar method is now being used.

Feeding an unequal world with a growing population and shrinking resources will require new ideas, both big and small, and agricultural advances of all kinds applied in new ways with new partners.

We'll need to pay as much attention to innovation in photosynthesis as we do to innovation in photosharing.

If we want the U.S. to be the hub of this innovation though, we'll need to do much more to support agricultural development. For starters, we'll need serious, sustained, public and private investment in researching new technologies. Despite wasting all that food, for instance, only 5 percent of agricultural research today goes to studying postharvest loss prevention.

But we can't just invest in R&D and hope that problems miraculously solve themselves. As I see it, there are three ways that we can do a better job fertilizing the field, so to speak. And those three legs supporting this tripod of innovation are: collaboration, education, and regulation.

Let's start with collaboration. I call it the "silos are for grain" part of my speech because it's true. If we have any hope of overcoming the difficulties of distance, of drought, and of disease, we must reject the siloed stakeholders and instead build solid, enduring partnerships for productivity. Let's leave the silos for grain.

That means establishing and strengthening relationships between foundations and family farms, activists, agribusinesses and academia. It will require bringing together actors at all levels, from farmers literally "down in the weeds" to the UN General Assembly.

This cannot be a top-down exercise. And it means understanding the end user so that we incorporate local cultures and traditions into our efforts, rather than working against them. If a local tribe thinks that nutritionally enhanced sweet potato tastes strange, they simply won't eat it, and our efforts will be wasted. Instead, we should adopt the strategy of people like Helene Gale who leads CARE's efforts. She tells a great story that some of you may have heard about teaching chicken farmers in flood-prone areas to become duck farmers, and she says she does that for one simple reason: ducks float.

Together, these cross-cultural public-private partnerships can invest in better seeds and better storage, in farm-to-market roads, bridges and railways. They can invent new financing models for family farmers and sign mutually beneficial trade agreements to expand agricultural markets.

USAID's Feed the Future program is one example of this kind of collaboration. So is the Alliance for a Green Revolution in Africa. Chaired by the former UN Secretary-General Kofi Annan and supported by the Rockefellers and the Gates Foundations, AGRA is a dynamic African-led partnership to end hunger and poverty while safeguarding the environment. In one Ugandan village, for instance, an AGRA-trained, agro-dealer named

Annette sold a local farmer seeds and supplies that increased his crop yield 150 percent, to 2.5 tons per acre.

Another promising example is the Africa Biofortified Sorghum (ABS) Project. This ongoing project brought together African governments, donors, the private sector, research institutions, universities, and other African organizations. It's a multi-million dollar effort to biofortify sorghum with increased levels of lysine, vitamin A, iron, and zinc to address high rates of micronutrient deficiencies across the continent.

The biofortification of this crop is significant because sorghum, as probably most of you know, is the second-most important cereal in Africa. But it has little nutritional value. It is also uniquely suited to adapt to Africa's climate, withstanding both drought and waterlogging. As a consequence, biofortified sorghum has the potential to improve the diets of 500 million people in over 30 countries who rely on it as a dietary staple.

From university classrooms to foreign fields – and everything in between – these are the kinds of globally connected, locally grounded collaborations we'll need to succeed in the coming century. And attaining these efforts will require significant commitment, investment, and resources from the global community.

If we want to unleash our innovative spirit though, it will take more than collaboration. We're going to need some significant, sustained educational efforts. And I don't mean STEM education and the like, though of course technical training is crucial to agricultural advancement. Instead, I'm talking about engaging the skeptics, and vocally advocating sound science as a solution to our food security challenges.

We need to bridge the gap between the people who produce food and those who consume it.

There is an unfortunate global divide today between the rural world and rest of the world. We've all seen it – in our own lives and work. Food producers are increasingly disconnected from food consumers. In this country, the Secretary speaks often and eloquently about the need to bring these sides closer together, and he's absolutely right.

American agricultural productivity is through the roof as farmers I represented would always brag. They would tell me about their yield per acre – how it's ten times what it is in Africa, and how, because of technology they are able to do things with their crops that their grandparents never even dreamed of doing. And it's incredible to see.

But one of the few drawbacks of our extreme productivity is that one percent of the American population can feed the other 99 percent. So the consumer is now so far separated from the producer that he or she doesn't understand what it takes to get the product fresh and safe to their supermarket today.

A few years back – in fact, some of you may remember this true story – Lay's Potato Chips reworked their packaging to include an image of a potato being sliced into a potato

chip. And they did that because they conducted a survey in which a third of the respondents said Lay's Potato Chips *weren't* made from potatoes.

[Laughter]

Talk about not knowing where your food comes from. Not to mention the public has become increasingly wary of our food supply. Many fear the role of science in our food, even when there is evidence of all the benefits that I've just attempted to describe. The golden rice story represents a good example. Developed over a decade ago, golden rice – a biofortified crop genetically modified to include beta carotene, which the body converts to vitamin A – has yet to reach the marketplace. The acceptance of golden rice remains uncertain even despite published research that suggests golden rice has the potential to help millions if not tens of millions of children who suffer from vitamin A deficiency, where rice is a staple food crop.

Given how much we need to improve our productivity to avoid a global food catastrophe, as well as to address global issues of under and overnutrition, we simply don't have the luxury of ruling out any solutions that are safe, nutritious, and can improve food security.

We need to embrace all of agriculture – from the small farms that feed the community to the large farms that feed the world. As a former President and, more importantly, peanut farmer Jimmy Carter once said, "Responsible biotechnology is not our enemy; hunger and starvation are." I couldn't agree more.

We also need to educate and inspire our young people to help feed the world by owning these agricultural innovations. We should be better integrating agriculture into classrooms, whether it's trips to local farms or math problems dealing with irrigation. We can boost the efforts of groups like the Global 4-H Network to teach our kids to be leaders and feeders of the 21st century. In fact, while many college graduates are struggling to find jobs, I recently read that agriculture students these days are not only finding jobs; they're actually fending off multiple offers.

The farmer who will feed the world in 2025 is 13 years old today. Whether she grows up to use all the tools at her disposal to do that will depend on our ability to quiet her concerns, train her well, and inspire her with the significance of the task at hand.

Finally, while we must expand our collaboration and education efforts, innovation can only flourish within a smart, sensible, streamlined, science-based regulatory framework. In short, we have to craft a 21st century system that holds true to our oldest values while unleashing our newest advances.

A recent study found that the agriculture and agriculture-biosciences industry is a $125 billion industry, supporting nearly 2.5 million jobs – with much more possible. It has been one of the few bright spots in this global economic downturn. Scientists are improving livestock production and bioengineering scuba rice that can survive heavy

flooding. In Australia, they are experimenting with wheat that can grow in saline soils, which would actually expand our arable land. It's astonishing.

But as is often the case, industry is innovating faster than regulatory systems are able to respond.

As a result, it can take as long as a decade and up to $250 million to bring crop protection products to market. It can take as long as 20 years and up to $150 million to discover and then commercialize a biotechnology trait, like pesticide resistance.

We can establish a science-based regulatory system though – one that respects health and environmental concerns, gives confidence to consumers, and ensures more predictable timelines. And when we do, the innovation we've already witnessed will be just the beginning of the innovations that are yet to come.

Now, another former president and family farmer – Dwight Eisenhower – once commented: "Farming looks mighty easy when your plow is a pencil and you're a thousand miles from the corn field." And it's true that it's pretty simple for a speaker to toss out some half-baked notions. So take my recommendations about grain with a grain of salt.

However, I have spent a fair bit of time reflecting on these issues. And I believe that if we reorient those "4 Ds" of how we engage with the world, and put food security at the center, and encourage innovation through collaboration, education and regulation, we're going to be moving in the right direction.

But that's entirely up to us – those of us in this room and the millions of farmers, business people, government officials, and everyday citizens.

A century-and-a-half from now, will our grandchildren's children live in a world where only a few are fed, or one where billions have their daily bread?

Will another long-winded speaker be able to point to an incredible discovery developed in a lab this year? Or will those seeds never be planted, never unleash the full power of productivity?

I know which future I'd prefer to see.

Last year a very dear friend of mine, a mentor, a champion of food for all, Senator George McGovern, passed away. It was just a few weeks ago that we learned that Pope Benedict XVI will be stepping down, and I am reminded today of the words of a different Pope, Pope John XXIII. A long time ago he met George at the Vatican. George was then heading up President Kennedy's Food for Peace program, and Pope John shook George McGovern's hand. He looked at him in the eye and he said to him, "When you meet your maker and he asks, did you feed the hungry? You can say, yes, I did."

George McGovern could say that a thousand times over. So can the millions of men and women and children whose farms and ranches and laboratories feed our families – even when we don't always realize or acknowledge it. And, by continuing to plow ahead, develop agricultural policies, and innovate in ways big and small, so indeed can all of us.

Thank you very much for giving me the chance to be with you this morning

[Applause.]